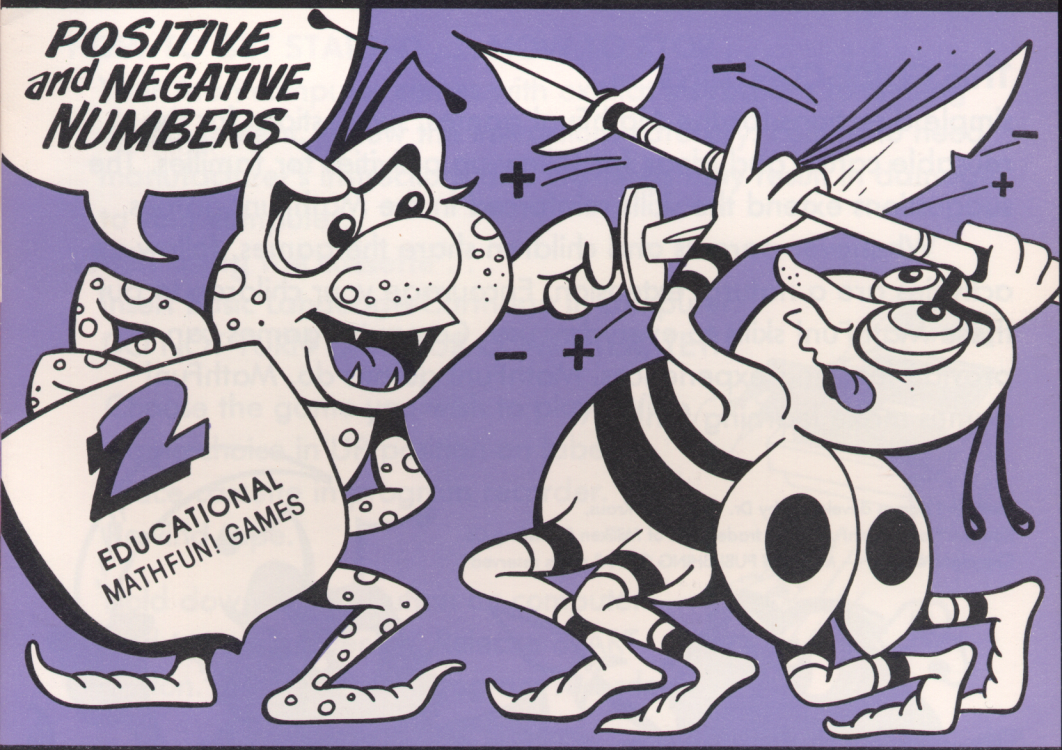
EduFun!™

BATTLING BUGS™ & CONCENTRACTION™



EduFun!
A Division of Milliken Publishing Company

USER'S GUIDE

INTRODUCTION

EduFun!™ . . .programs offering a unique combination of computer-generated learning and fun from a company with years of experience in educational publishing. Children (of all ages) explore and reinforce basic concepts through Milliken's MathFun!™ games which both teach and entertain.

Our primary objective is simple — make learning fun. EduFun! programs do just that!

THIS GUIDE CONTAINS . . .

simple directions for the MathFun! games, suggestions for the reusable cards, and ideas for follow-up activities for families. The suggestions extend the skills reinforced in the MathFun! games.

Whenever parents and children share the games, follow-up activities are a natural extension. Encourage your children to put these MathFun! skills to everyday use. Computer games can provide learning experiences. MathFun! games do. MathFun! games make learning fun!

MathFun! games developed by Dr. William H. Kraus.
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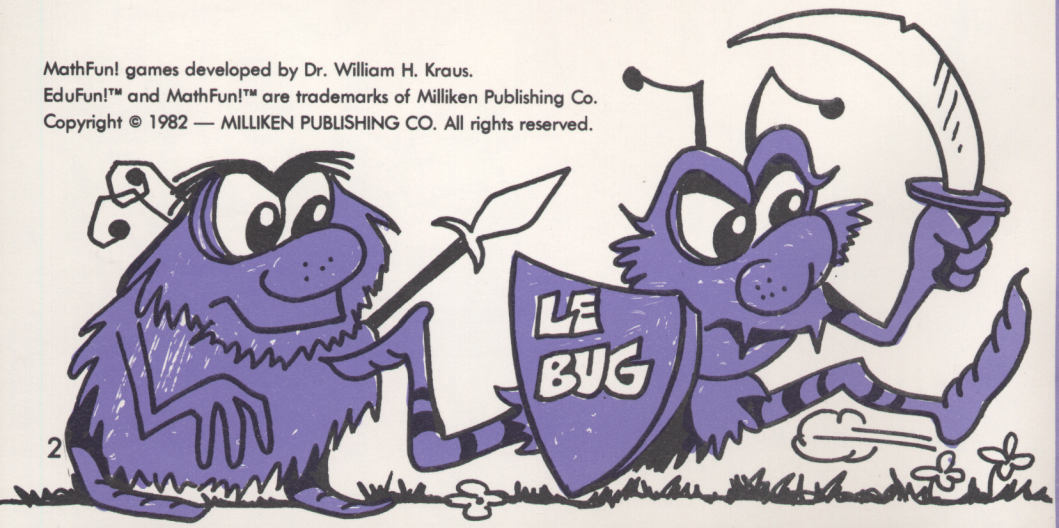


WHAT YOU'LL NEED . . .

For the cassette:

1 Atari® Computer (16K RAM)
1 Atari® Program Recorder
1 Atari® Basic Cartridge

For the diskette:

1 Atari® Computer (32K RAM)
1 Atari® Disk Drive
1 Atari® Basic Cartridge

1 MathFun! Game, of course!
1 or more children of ANY age!

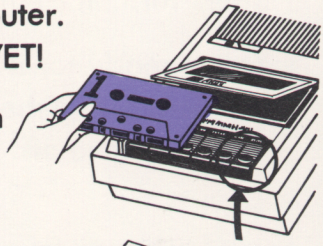
Atari® is a trademark of Atari Inc.

HOW TO GET STARTED . . . HOW TO STOP . . .

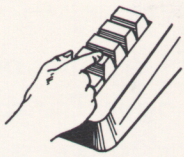
Your Atari computer comes with explicit instructions for setting up equipment. Follow the instructions carefully. Failure to heed manufacturer's instructions and warnings may result in damage to your computer.

When using the cassette . . .

insert Basic Language Cartridge in computer.
DO NOT TURN ON YOUR COMPUTER, YET!



Choose the game you wish to play. With game choice in UP position on label, place cassette in program recorder. Rewind tape.



Hold down START button on computer and turn computer on. Release START button. Press PLAY on program recorder.

Press RETURN key on computer. Computer will load and run program. (Be patient . . . it will take time.)

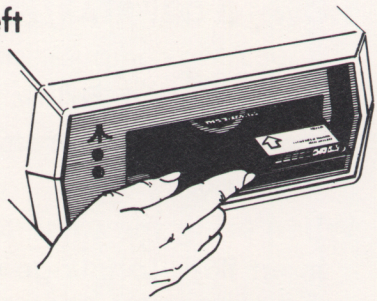
You're ready for MathFun! Follow computer directions.

When you're finished . . .

READY will appear on the screen, and you may turn off the computer and TV or monitor.

When using the diskette . . .

insert Basic Language Cartridge in left slot of computer. Turn on disk drive.



When BUSY LIGHT goes off, insert diskette, label side up, notch on left, until you hear click. Close disk drive door. Turn on computer.

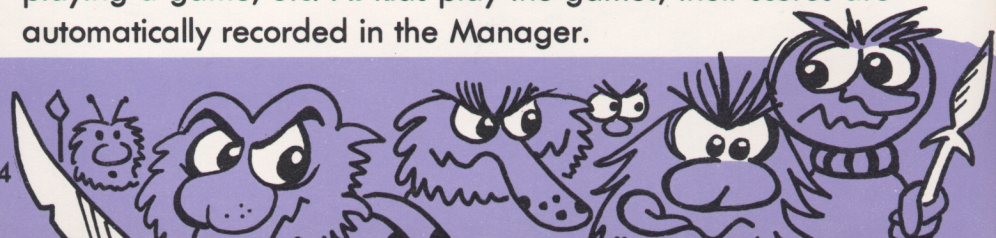
You're ready for MathFun! Follow computer directions.

When you're finished . . .

turn disk drive off. Turn computer off. Turn monitor off.

RECORD-KEEPING . . . For parents only!

MathFun! diskettes only include a record-keeping system called the Manager. This capability allows parents to review a youngster's progress, scores, number of games played, time spent playing a game, etc. As kids play the games, their scores are automatically recorded in the Manager.



To access the Manager, when the Menu page is displayed on the screen, press **0** (zero).

If games are heavily used, it is a good idea to review the Manager at least every two to three weeks. Reviewing the Manager condenses the user's files, and allows for additional records.

DIRECTIONS FOR BATTLING BUGS

- Positive and Negative Numbers

Welcome to the Battle of the Bugs! A column of red bugs and a column of black bugs march toward each other. When they meet, each pair of colliding bugs disappears. The remaining bugs continue marching forward. You must then add a new column of bugs to combat the survivors!

The numbers of bugs you must choose are displayed at the top of the screen. The bugs you choose must be opposite in color from the survivors. You specify red bugs by using a NEGATIVE number and black bugs by a POSITIVE number. You may make your choice before or after the bugs collide.

The game continues until a column of bugs reaches the opposite goal bar, or until all of the bugs are destroyed. By correctly choosing new sets of bugs each time they collide, it will always be possible to eliminate all of the bugs and get a perfect score.

Your score will be determined by subtracting 10 times the number of bugs that get through from 100. The more bugs you eliminate, the higher your score. Eliminate them all and you score a perfect 100! Get 3 perfect battles in a row and receive a special message!

Alert! Alert! After each set of 3 perfect battles, the bugs will march at a faster pace!

See how fast you can "DE-BUG" this game!

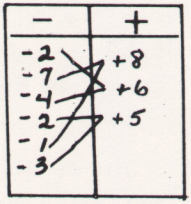
REUSABLE BUG CARD

The Bug Card has a variety of uses:

1. Use as a scratch pad to plan strategy for eliminating all the bugs for each battle.
2. To help in understanding positive and negative numbers, write any 5 numbers in the positive column. Then, have your

child write 5 different numbers in the negative column. Your child must choose numbers so the totals of the columns cancel each other.

3. For additional practice, write down 3 positive numbers. Then, write down twice as many negative numbers. Have your child then match them as shown.
4. Do the same activity as in #3, but use 3 negative numbers and 6 positive.



(Use a wax crayon or water soluble marker. Wipe clean with a tissue.)

POSITIVE REINFORCEMENT

Make a number line with your children, such as the one shown below.

-6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6

Explain that as any number (whether positive or negative) gets farther to the right on the number line, it gets larger. Give them pairs of numbers to determine the larger one.
Example: -3 and -5.

Make a list of 10 random positive and negative numbers. Then, have your child recopy the list in order from least to greatest.

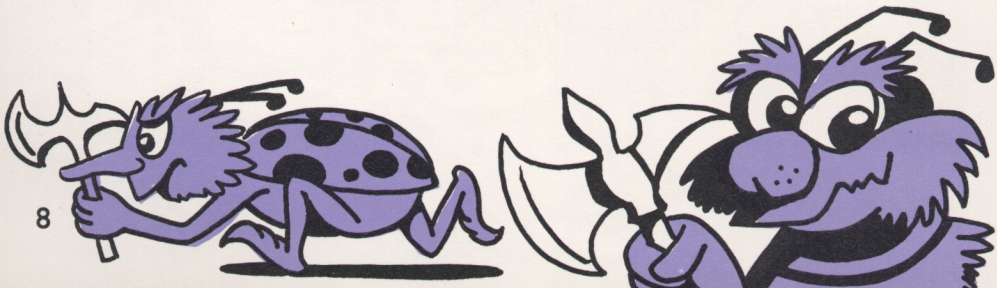
To relate the use of positive and negative numbers to everyday life, show your child a thermometer. Call attention to temperatures below zero and discuss how they are recorded.

You may discover that involvement with your children will greatly increase their motivation to tackle new or difficult concepts!

DIRECTIONS FOR CONCENTRACTION

- Equivalent Fractions
- Visual Memory

Concentrate on Concentraction!
There are 20 fractions hidden behind lettered covers. They are either pictures or symbols. You must try to uncover pairs of equivalent fractions. In the fraction PICTURES, the red (darker) figures represent the NUMERATOR. The DENOMINATOR is represented by the TOTAL number of figures.



When asked for your first and second guesses, press the letters of two pictures you think might match. Those two pictures will then be uncovered, and you will be asked if they are EQUAL. Press **Y** if they're equal or **N** if they're not. With two or more players, the player making a correct match continues to play.

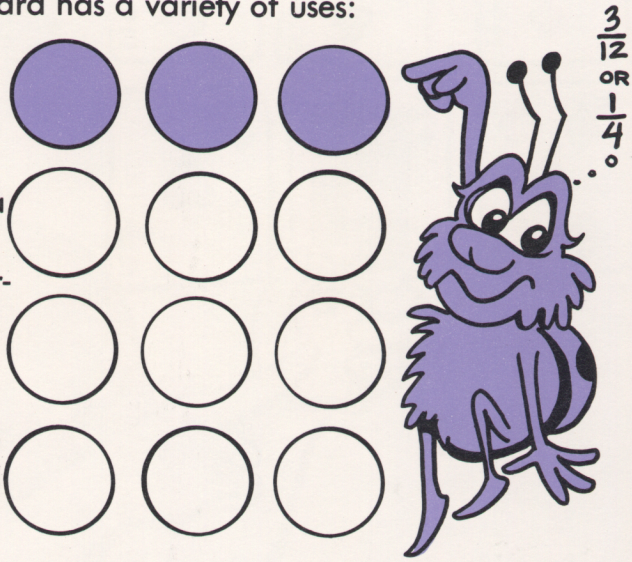
More points are scored for matches earlier in the game than later in the game. If you want to quit before the end of the game, press the **ESC** key when asked for your first or second guess.

Concentrate on Concentraction ...

Beat your opponent by more than a fraction!

FRACTION ACTION CARD

The Fraction Action Card has a variety of uses:



1. Use as a practice card when your child is learning Concentraction. This will serve as a means to find out if your child understands equivalent fractions.
2. If your child is experiencing difficulty, use the card to reinforce this difficult skill.
3. Take the card along on a trip. You might fill in so many shapes and ask what fraction is represented. Then, what other way that fraction could be named.

CONCENTRACTION ACTION

One of the skills reinforced by Concentraction is visual memory. A great way to improve this skill and have fun at the same time, is to play Concentration with a deck of cards. Simply lay the cards face down and try to make matches. Your whole family will enjoy it!

Show the family a tray of items for a specific length of time. Take the tray away and see who can remember the most items.

To reinforce both the visual memory and equivalent fraction skills, make a set of cards with fractions on them. You can use unlined 3x5 notecards. Then, use them to play Concentration —just like the card game.

Have fun with a pizza and equivalent fractions at the same time! Cut it in half. Then, cut $\frac{1}{2}$ again, showing that the 2 halves are still equal. e.g. $\frac{1}{2}=\frac{2}{4}$. Then, cut again, showing that $\frac{1}{4}=\frac{2}{8}$ and $\frac{1}{2}=\frac{2}{4}$ and $\frac{4}{8}$. THEN, jump in and eat the pizza before it gets too cold!

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MILLIKEN PUBLISHING CO.
EduFun! Division
EduFun! Customer Service
1100 Research Blvd.
St. Louis, MO 63132